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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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02/13/1991 09/01/90 LEE

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EXAMINER

02/13/1991

ART UNIT

PAPER NUMBER

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Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

# Office Action Summary

Application No.

09/145,595

Applicant(s)

LEE, JI UNG

Examiner

Karabi Guharay

Art Unit

2879

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

## Status

- 1) ☐ Responsive to communication(s) filed on Amendment A, 7/6/00.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☐ Claim(s) 36-46 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 36-46 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some \* c) ☐ None of the CERTIFIED copies of the priority documents have been:
1. ☐ received.
2. ☐ received in Application No. (Series Code / Serial Number) \_\_\_\_\_.
3. ☐ received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. & 119(e).

## Attachment(s)

- 15) ☐ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 18) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: \_\_\_\_\_

***Response to Amendment***

The change of title, in Amendment , filed on 7/6/00 has been acknowledged.

In the claims: cancellation of claims 1-35, as being directed to a non-elected group has been entered.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 36-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cloud et al. (U.S. 5,653,619).

Regarding claim 36, Cloud et al. disclose a field emission device (see column 1, line 15) comprising a number of cathodes formed in rows along a substrate (11), a gate insulator (18) formed along the substrate and surrounding the cathodes (see Fig 1), a number of gate lines (15) formed on the gate insulator (18) (see column 1, lines 60-67), an anode (16) (see column 4, lines 6-7), the anode (16) being formed orthogonal and opposing the cathodes (see column 2, lines 13-14).

Though Cloud et al. do not exemplify the anode in form of strips (plurality of anodes) however, it is conventional to have number of anodes in matrix addressed array of cold cathode emission devices (see U.S. 5,675,210).

Cloud et al. further disclose that a distance separating the number of cathode emitter tips from the number of gate lines is significantly thinner than a separation distance separating the number of gate lines and the substrate (see Fig 1, Fig 2, and Fig 2B).

Method limitations in claim 36 and claim 37 have not been given patentable weight since the method of forming the device is not germane to the issue of patentability of the device itself (see MPEP 2113).

Regarding claim 38, Cloud et al. disclose that the number of cathodes (13) include polysilicon cones (see column 3, lines 60-66).

Regarding claim 39, Cloud et al. disclose that the cathodes (13) includes metal silicides (see column 7, lines 54-59).

Regarding claim 40, Cloud et al. disclose that the substrate (11) includes glass (see column 3, line 58).

Regarding claim 41, Cloud et al. disclose that gate lines (15) include refractory metals (see column 6, lines 1-2).

Regarding claim 42, Cloud et al. disclose that the number of gate lines (15) include doped silicon (see column 6, lines 2-3).

Claim 43 is rejected for the same reason as claim 36.

Claim 44 is rejected for the same reason as claim 37.

Claim 45 is rejected for the same reason as claim 39.

Claim 46 is rejected for the same reason as claim 41.

***Other Prior Art Cited***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Doan et al. (U.S. 5,259,799); Kim (U.S. 5,675,210).

***Response to Arguments***

Applicant's amended claims and arguments have been fully considered but they are not persuasive.

The structure of field emission array, as disclosed in claim 36, and claim 43 are obvious from the structure of field emission display disclosed by Clouds et al. (US 5653619).

In this particular case, the product in the product by process claim (claim 36) is obvious from a product of the prior art (Cloud et al. Us. 5653619). Thus the product claim (claim 36) is unpatentable even though the prior product was made by a different process (as acknowledged by applicant on page 3 of Amendment A, filed on 7/6/00).

Same reason holds for the product by process claim as disclosed in claim 43.

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

**Contact Information**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karabi Guharay whose telephone number is (703) 305-1971. The examiner can normally be reached on Monday-Friday 7:30 am - 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D. Patel can be reached on (703) 305-4794. The fax phone numbers for the organization is (703) 308-7382.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

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Karabi Guharay  
Patent Examiner  
Art Unit 2879

*Asen*  
ASHOK PATEL  
PRIMARY EXAMINER